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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,733	02/12/2004	Hsiang-An Hsieh	250324-1040	5601

24504 7590 03/15/2006

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EXAMINER

LEE, CHUN KUAN

ART UNIT PAPER NUMBER

2181

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/777,733		HSIEH, HSIANG-AN	
	<b>Examiner</b>		<b>Art Unit</b>	
	Chun-Kuan (Mike) Lee		2181	

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Fritz Fleming  
Supervisory PRIMARY EXAMINER  
GROUP 2100 AU2181  
3/11/2006

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

1. The following title is suggested: "Multiple Format Interface Adapter for Small Storage Media."
2. The use of the trademark Express Card, Compact Flash (CF), MicroDrive, PCI Express, Smart Media (SM), xD, Memory Stick (MS), Secure Disk (SD) and Multi-Media Cards (MMC) has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-9 contain the trademark/trade names "Express Card" and "Compact Flash";  
  
claim 2 contains the trademark/trade names "MicroDrive";

claims 4-5 and 14-15 contain the trademark/trade name "PCI Express";  
Claims 10-19 contain the trademark/trade names "Express Card";  
claim 11 contains the trademark/trade names "SM" and "xD";  
claim 12 contains the trademark/trade name "MS"; and  
claim 13 contains the trademark/trade names "SD" and "MMC". Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a type of interconnection interface and various types of memory cards and, accordingly, the identification/description is indefinite.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mowery et al. (US Patent 6,984,152) in view of Jones et al. (US Pub 2003/0084220 A1) and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs".

5. As per claim 1, Mowery teaches an interface adapter suitable for a small storage medium in a casing, wherein the small storage media is a compact flash memory card (col. 1, l. 60 to col. 2, l. 12), the interface adapter being characterized in that:

a front end of the casing includes a interface coupled with a system (host side of Fig. 16) (Fig. 4, wherein the left side of the card is the front end and Fig. 16);

a rear end of the casing includes a U-shaped slot, wherein two sides of the U-shaped slot form guide tracks, a third side of the U-shaped slot has a standard interface, thereby the compact flash memory card is placed in position by insertion along the guide tracks to connect to the standard interface (Fig. 5, wherein the right side of the card is the rear end);

a circuit board coupled between the front end interface and the rear end standard interface (Fig. 4-5 and col. 4, ll. 3-16);

an adapter (Fig. 16) connected on the circuit board and respectively coupled with the front end interface and the rear end standard interface, wherein the adapter operates a signal controller between the compact flash memory care and an external system (Fig. 16);

wherein the rear end standard interface at least includes a compact flash memory card detect pin (SD\_CD, SD/MMC\_CD, SM\_CD and MS\_CD on the media card side of Fig. 16); and

wherein the front end interface includes:

a card insertion detect pin (SQRY3, SQRY4, SQRY5 and SQRY6 on the host side of Fig. 16) coupled with the compact flash memory card detect pin to determine whether the compact flash memory card is inserted (Fig. 16 and col. 8, 41-67);

a set of differential serial pins (Fig. 16, ref. 1604) coupled with the system data transmission pins to conduct signal transmission with the external system (host side) (Fig. 16).

Mowery does note expressly teach the interface adapter suitable for a small storage medium, the interface adapter being characterized in that the interface, at the front end of the casing, coupled with a system is a Compact Flash (CF) standard storage medium; a double-configuration interface; a CF standard interface; the adapter is a IDE converter control chip; and wherein the adapter has at least has a set of system data transmission pins.

Jones teaches an interface adaptor card reader comprising:

a Compact Flash (CF) standard storage medium (Fig 1B and [0050]);

a CF standard interface (Fig 1A, 1B and [0050]), interface between the PCMCIA and the CF;

an IDE adapter interface (Fig 3B, ref. 51) ([0050]); and

a set of data transmission pins utilized for data transfer from the Compact Flash card to the IDE adapter interface to the host PC ([0014], [0050] and [0082]).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Jones' Compact Flash (CF) standard storage, IDE adapter interface and set of data transmission pins into Mowery's interface adapter.

The suggestion/motivation for doing so would have been to increase the number of the different types of memory card that can be read by the interface adapter.

Therefore, it would have been obvious to combine Jones with Mowery for the benefit of increasing the number of the different types of memory card that can be read by the interface adapter to further include CF card and MicroDrive.

"PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teaches the new development of the codename NEWCARD, which supporting the USB 2.0 and PCI Express I/O technology (page1), wherein the interface of the NEWCARD, also known as Express Card, would have a double-configuration interface conforming to the USB 2.0 and PCI Express I/O technology.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs' dual I/O interface technology into Mowery's interface adapter.

The suggestion/motivation for doing so would have been for the interface adapter to become smaller in size, to increase speed, lower costs and support two popular

advance serial I/O technology (PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs, page 1).

Therefore, it would have been obvious to combine PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs with Mowery and Jones for the benefit of reducing size and cost of the adapter while increasing the data transferring speed.

6. As per claim 2, Mowery, Jones and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 1 as discussed above, where Jones further teaches the interface adapter comprising wherein the CF standard storage medium includes a removable CF memory card and a micro drive (Jones, claim 5).

7. As per claim 3, Mowery, Jones and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 1 as discussed above, where Jones further teaches the interface adapter comprising wherein the CF standard storage medium includes a fixed small hard disk (Jones, claim 5), wherein the MicroDrive is the fixed small hard disk.

8. As per claim 4, Mowery, Jones and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 1 as discussed above, where "PCMCIA Announcement Development for New



Expansion Technology for Mobile and Desktop PCs" further teaches the interface adapter comprising wherein the double-configuration interface includes a PCI Express interface and a USB interface ("PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs", page 1).

9. As per claim 5, Mowery, Jones and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 4 as discussed above, where "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" further teaches the interface adapter comprising wherein the PCI Express interface is used as an operating interface ("PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs", page 1), as the interface would operate in accordance to the PCI Express standard.

10. As per claim 6, Mowery, Jones and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 4 as discussed above, where "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" further teaches the interface adapter comprising wherein the USB interface is used as an operating interface ("PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs", page 1), as the interface would operate in accordance to the USB standard.

11. As per claim 7, Mowery, Jones and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 1 as discussed above, where Mowery further teaches the interface adapter comprising wherein the double-configuration interface includes a power terminal that transmits an operating voltage issued from the system under an enable status of the card insertion detect pin (Mowery, Fig. 6A, 6B, 8 and col. 5, l. 32 to col. 6, l.20), wherein if the slot is empty, the host will not apply power.

12. As per claim 8, Mowery, Jones and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 1 as discussed above, where Jones further teaches the interface adapter comprising wherein the CF standard interface further includes a plurality of address pins, data transmission pins and control pins (Jones, [0014], [0050] and [0082]).

13. As per claim 9, Mowery, Jones and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 1 as discussed above, where Jones further teaches the interface adapter comprising wherein the IDE converter control chip includes a plurality of address pins, data transmission pins and control pins respectively corresponding to those of the CF standard interface (Jones, [0014], [0050] and [0082]).

14. Claims 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mowery et al. (US Patent 6,984,152) in view of "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs".

15. As per claim 10, Mowery teaches an interface adapter suitable for a small storage medium, the interface adapter being characterized in that:

- a front end of the casing includes a interface coupled with a system (host side of Fig. 16) (Fig. 4, wherein the left side of the card is the front end and Fig. 16);

- a rear end of the casing forms a slot to accommodate the insertion of a small memory card (Fig. 5, wherein the right side of the card is the rear end);

- an inside of the casing corresponding to the slot includes a signal converter (Fig. 5) configured to accommodate the small memory card and conduct signal transmission via the front end interface to the system (Fig. 4-5 and col. 4, ll. 3-16);

- a circuit board coupled between the front end interface and the signal converter (Fig. 4-5 and col. 4, ll. 3-16);

- a multi-card reader control chip (adaptor of Fig. 16) assembled on the circuit board and respectively coupled with the front end interface and the signal converter, wherein the multi-reader control chip operates as a signal controller between the system and the small memory card (Fig. 4-5, 16);

- wherein the front end interface at least includes:

- a set of differential serial pins (Fig. 16, ref. 1604) configured to conduct signal transmission with the system (host side) (Fig 16); and

a card insertion pin (SQRY3, SQRY4, SQRY5, and SQRY6 on the host side side of Fig. 16) configured to determine whether the memory card is inserted (Fig. 16 and col. 8, ll. 41-67);

wherein the multi-card reader control chip includes:

a set of system data transmission pins (SD\_CD, SD/MMC\_CD, SM\_CD and MS\_CD on the media card of Fig 16) coupled with the differential serial pins; and

a first detect pin, a second detect pin, a third detect pin respectively for detecting the insertion of the memory card (SQRY3, SQRY4, SQRY5, and SQRY6 on the host side of Fig 16);

wherein the signal converter includes:

a first type card detect pin coupled with the card insertion detect pin and the first detect pin, wherein the first type card detect pin detects the insertion of a first type of memory card (Fig. 4-5, 6C, 8-9, 16);

a second type card detect pin coupled with the card insertion detect pin and the second detect pin, wherein the second type card detect pin detects the insertion of a second type of memory card (Fig. 4-5, 6C, 8-9, 16);

a third type card detect pin coupled with the card insertion detect pin and the third detect pin, wherein the third type card detect pin detects the insertion of a third type of memory card (Fig. 4-5, 6C, 8-9, 16), wherein the plurality of pins are utilized to detect the specific type of memory card that is being inserted into the slot.

Mowery does not expressly teach the interface adapter suitable for a small storage medium, the interface adapter being characterized in that the interface, at the

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front end of the casing, coupled with the system is a double-configuration interface and the interface adapter conforms to the Express Card standard.

"PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teaches the new development of the codename NEWCARD, which supporting the USB 2.0 and PCI Express I/O technology (page1), wherein the interface of the NEWCARD, also known as Express Card, would have a double-configuration interface conforming to the USB 2.0 and PCI Express I/O technology.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs' dual I/O interface Express Card technology into Mowery's interface adapter.

The suggestion/motivation for doing so would have been for the interface adapter to become smaller in size, to increase speed, lower costs and support two popular advance serial I/O technology (PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs, page 1).

Therefore, it would have been obvious to combine "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" with Mowery for the benefit of reducing size and cost of the adapter while increasing the data transferring speed.

16. As per claim 11, Mowery and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 10

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as discussed above, where Mowery further teaches the interface adapter comprising wherein the first type of memory card includes a SM or xD small memory card (Mowery, Fig. 16 and col. 1, l. 60 to col. 2, l. 12).

17. As per claim 12, Mowery and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 10 as discussed above, where Mowery further teaches the interface adapter comprising wherein the second type of memory card includes a MS small memory card (Mowery, Fig. 16 and col. 1, l. 60 to col. 2, l. 12).

18. As per claim 13, Mowery and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 10 as discussed above, where Mowery further teaches the interface adapter comprising wherein the third type of memory card includes a SD or MMC small memory card (Mowery, Fig. 16 and col. 1, l. 60 to col. 2, l. 12).

19. As per claim 14, Mowery and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 10 as discussed above, where "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" further teaches the interface adapter comprising wherein the double-configuration interface includes a PCI Express interface

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and a USB interface ("PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs", page 1).

20. As per claim 15, Mowery and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 14 as discussed above, where "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" further teaches the interface adapter comprising wherein the PCI Express interface is used as an operating interface ("PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs", page 1), as the interface would operate in accordance to the PCI standard.

21. As per claim 16, Mowery and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 14 as discussed above, where "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" further teaches the interface adapter comprising wherein the USB interface is used as an operating interface ("PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs", page 1), as the interface would operate in accordance to the USB standard.

22. As per claim 17, Mowery and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 10

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as discussed above, where Mowery further teaches the interface adapter comprising wherein the double-configuration interface includes a power terminal that transmits an operating voltage issued from the system under an enable status of the card insertion detect pin (Mowery, Fig. 6A, 6B, 8 and col. 5, l. 32 to col. 6, l.20), wherein if the slot is empty, the host will not apply power.

23. As per claim 18, Mowery and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 10 as discussed above, where Mowery further teaches the interface adapter comprising wherein the signal converter includes three sets of system data transmission pins and control pins respectively corresponding to the three types of memory card (Mowery, Fig. 8, 16).

24. As per claim 19, Mowery and "PCMCIA Announcement Development for New Expansion Technology for Mobile and Desktop PCs" teach all the limitations in claim 10 as discussed above, where Mowery further teaches the interface adapter comprising wherein the multi-card reader control chip includes a plurality of data transmission pins and control pins corresponding to the signal converter (Mowery, Fig. 4-6, 16), wherein the adaptor card would required to include the plurality of data pins to read/write data to the memory card and include the plurality of control pins for the detection of the type of memory card inserted, therefore the adaptor is required to include the plurality of data transmission pins and control pins corresponding to the signal converter.



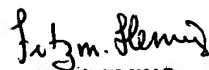
### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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03/10/2006

  
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